JANUARY • 1959

# FIREMEN

VOLUME 26. NUMBER 1. COPYRIGHT 1959 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A

Gas Fire in Allentown, Pennsylvania — *see page 9*

TIONAL FIRE
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63rd
year

CHICAGO SCHOOL FIRE › › › › › › › › Page 11

RESCUES OF A YEAR GONE BY › › › › Page 16

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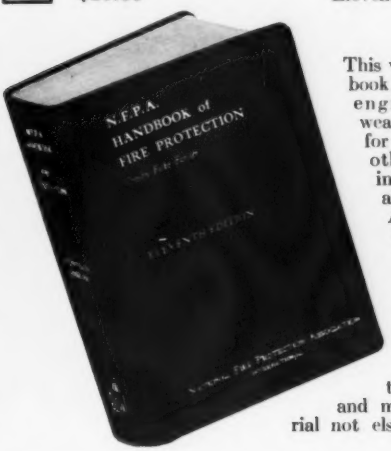


This valuable reference book of fire protection engineering has a wealth of vital data for fire fighters and others specializing in fire prevention and fire protection. Also used as a text for beginners. Includes hydraulic data, charts, tables, illustrations of automatic sprinklers, and other fire protection devices, and much other material not elsewhere available.

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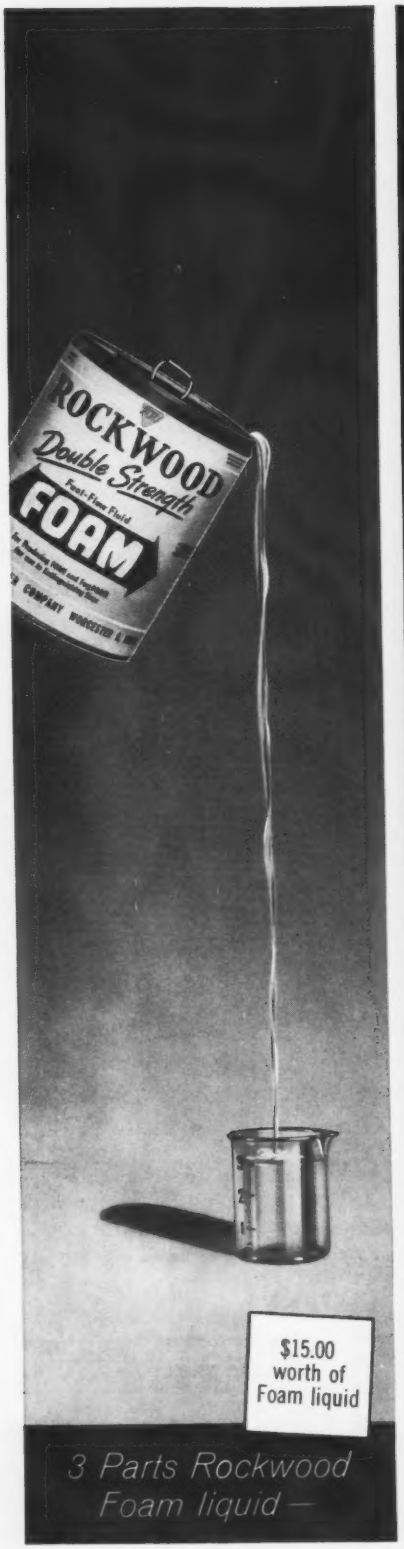

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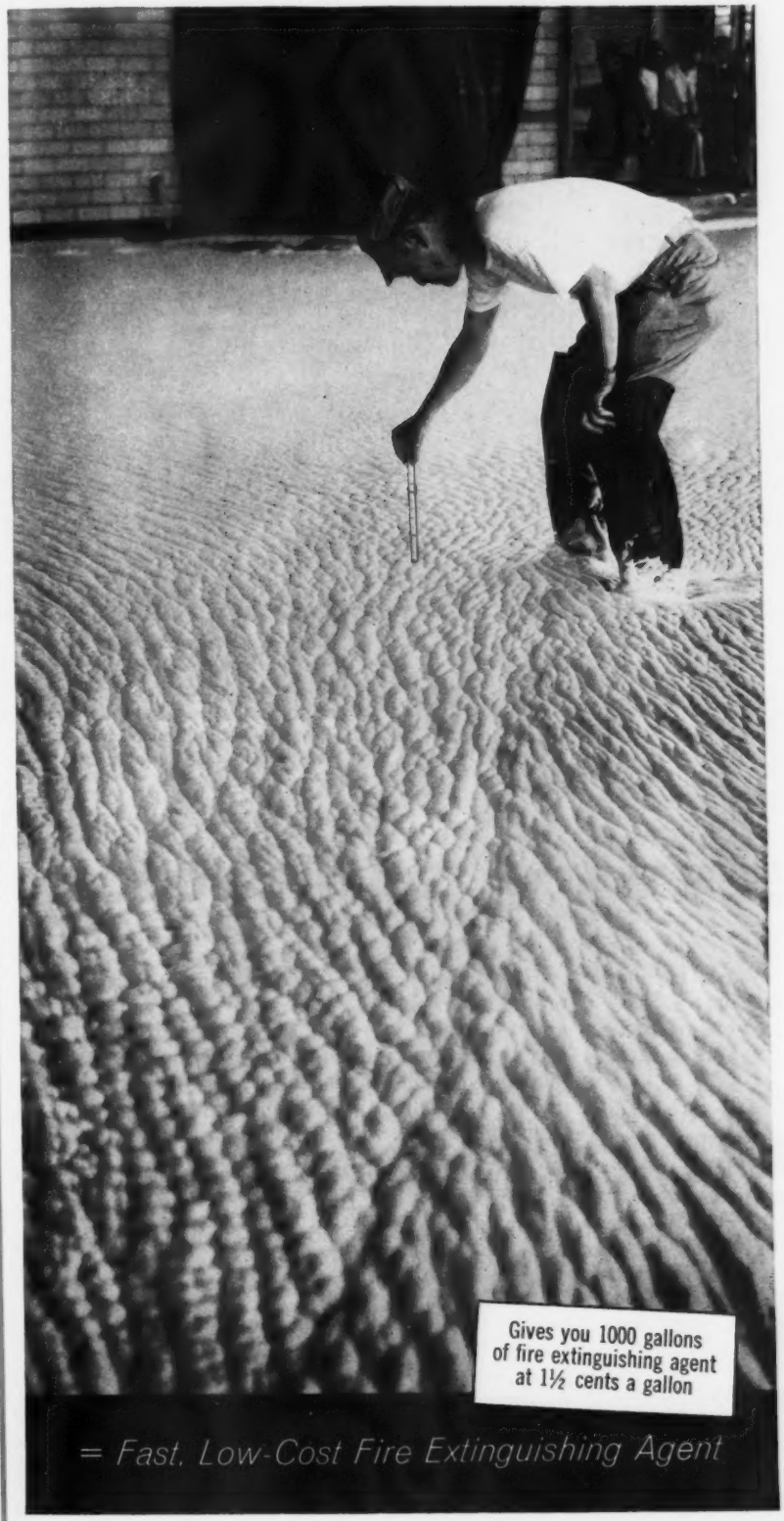


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# FIREMEN

Volume 26 • Number 1

A monthly magazine published for the fire service members of the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.



Warren Y. Kimball *Editor*

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**Persons most familiar** with the problems of fire safety in the older school buildings have long appreciated that the only practical way to make these buildings safe is to provide automatic sprinklers at least in the basements, hallways and other areas where there may be fire and life safety hazards. Following the Chicago school fire the Associated Fire Fighters of Massachusetts, CIO-AFL, had legislation introduced calling for the creation of a special legislative commission to study the compulsory installation of automatic sprinkler systems in all public and parochial schools in the Commonwealth. Where old schools have been sprinklered the record has been extremely good in promptly controlling fires at the incipient stage and we know of no loss of life in any sprinklered school. Also, in Massachusetts, all schools are regularly inspected by the State and must have a State certificate of fire safety before they open for a school term.

After a major fire tragedy there has always been a rash of hasty and ill-conceived legislation introduced with the intention of providing greater fire safety. One of the most frequent requirements is that outside iron fire escapes should be installed. The NFPA has long pointed out that these fire escapes give a false sense of security and sometimes are death traps where persons are grilled by fire coming from lower windows. While in some instances they may save people from fire, fire escapes occasionally are installed in lieu of proper and adequate exits and thus violate one of the most important fundamentals of fire safety.

A much more logical solution is to provide ample permanent exits, make the corridors fire-safe and see that all hazardous areas such as basements are well cut off from the occupied parts of the building by suitable fire doors and protected by approved automatic sprinklers and fire detection equipment.

●

**Fires caused** 11,500 deaths and $1,305,000 loss in the United States in 1958, according to preliminary estimates of the NFPA Fire Record Department. For Canada the estimates were 620 deaths and $180,000,000 property loss. The U.S. billion-dollar plus fire loss includes $1,095,000,000 loss to buildings and contents, and $210,000,000 loss in aircraft, motor vehicles, forest and other fires. In Canada, building and contents fire loss was $140,000,000, while forest fires alone caused $40,000,000 loss.

●

**This month's cover** shows conditions met by fire fighters in Allentown, Pennsylvania, on December 14. A break in a 4-in. distribution main intersection allowed gas to leak into a nearby hotel. Fortunately, a woman who lived on the second floor happened to go into the hotel basement where she noticed the gas odor. She then ran to warn about 50 persons in the hotel bar so that they got out of the building before the gas reached a source of ignition. Moments later there was an explosion and fire near the distribution main, followed some time later by a second blast that shattered the 3-story stone, wood frame hotel. This second explosion killed seven and injured thirty-three onlookers who had gathered to watch the fire and actions of responding fire fighters. Allentown Chief John Butz was blown across the street by this blast. It was reported that none of the persons who escaped from the hotel was injured by the second explosion. Subsequently, many families in nearby dwellings were evacuated until the gas distribution main could be repaired and the area made safe. (Cover picture *Associated Press Wirephoto.*)

# CHICAGO SCHOOL FIRE

**A special preprint from the January, 1959, NFPA *Quarterly*, has just been published, describing the disastrous school fire in Chicago, Illinois, on December 1. This report is of vital significance to fire chiefs in every municipality and to everyone else interested in protecting the life safety of children in school. Priced at 25 cents, copies are immediately available from the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.**

BY NOW, the shocking fire tragedy that happened on December 1, 1958, has penetrated to every city and town in the United States. Ninety pupils and three nuns died from a fire that involved Our Lady of the Angels School that day in the west side of Chicago, Illinois. They lost their lives when smoke, heat and fire cut off their normal means of escape through open stairways and corridors. Seventy-seven were seriously injured. An exact count of the people in the school when the fire occurred is not known but estimates place the total at between 1,200 and 1,300. It is known that there were 569 pupils and teachers in the involved north wing of the U-shaped two-story brick, wood-joisted building where the fire occurred, and 329 of these were in six second-story classrooms.

Some time prior to 2:25 P.M., fire broke out in combustible materials stored in the bottom of the rear stairway of the north wing. One possible cause is that a pupil was "sneaking a smoke." In any event, it was at 2:25 that a teacher sent two pupils down to the boiler room incinerator. They returned at 2:30 to say that they smelled smoke. The teacher told her class to remain seated, then ran across the annex corridor and asked another teacher what to do. This second teacher ran down the corridor trying to find the school principal. Not finding her, the second teacher then returned to her classroom and both teachers took their classes out of the building to the nearby church. Then one of the teachers ran back to the school, found smoke in the second-story corridor and finally went to the south wing to send the fire alarm signal. The time was now 2:42 P.M.

Meanwhile, at about 2:25 P.M. the janitor, who was outside the building, saw smoke in the rear of the alley between the parish house and the school. He said he ran into the boiler room, then ran to the parish house, yelled to the housekeeper to call the fire department, then ran back into the school boiler room and started through the building. At 2:42 P.M. the housekeeper's call went to Chicago fire headquarters.

Chicago's standard still alarm response — one engine, one ladder truck, a rescue squad and a battalion chief was dispatched and a unit of the Chicago fire patrol also responded. At about the same time, however, the department was receiving the first of fifteen other telephone alarms and fire alarm headquarters supplemented the still alarm response by sounding the number of the nearest street box located one block east and one block south of the school property. This box alarm, at 2:44 P.M., brought two ladder companies, four engine companies and two chief officers to supplement the still alarm response. At 2:47 the battalion chief ordered a second alarm.

Finding children jumping from the second-story windows, the engine company responding on the "still" radioed for a box alarm immediately after arrival. This was received at 2:42 P.M. as fire alarm headquarters was setting up its box. Special calls for ten ambulances were made between 2:50 and 2:55 P.M. At 2:57 P.M. a fifth alarm was ordered and later, at 3:08 P.M., a special call was made for two additional ladder companies, two additional rescue squads, bringing the total fire fighting and rescue equipment at the scene to 22 engine companies, 7 ladder companies, 5 rescue squads, 1 insurance patrol, 3 high pressure units, 2 water towers, 10 fire department ambulances, 7 chiefs and 2 commissioners. The police responded with over 70 stretcher-equipped "squadrols" (patrol squad cars).

Before the first fire apparatus arrived, children were already jumping from the second-story windows. The janitor, priests, nuns and a number of citizens made heroic rescues prior to, and concurrent with, the operations of the Chicago fire fighters and the fire insurance patrol members who rescued 160 persons. Despite these efforts, however, the fire victims had little

*(Left)* View of involved wing of Our Lady of the Angels School showing dense smoke condition on second floor. Doors to the classrooms on this floor were closed but smoke seeped under the doors and plain glass transoms admitted additional smoke and gas. Classrooms and corridor ceilings were finished in combustible acoustical tile. Lack of a door on the second floor was responsible for the tragic loss of life. *(AP Wire Photo)*

chance of escape. There was no automatic sprinkler or automatic fire detection equipment in the building and as the fire spread up through open interior stairways and burst into the second-floor corridor, then into classrooms, it trapped and killed the children, some of whom were still seated at their desks.

As this is being written full details are not available on the fire ground operations of Chicago fire fighters. However, the Chicago Fire Department has given the following information on Engine 85 — the first unit on the still alarm. This pumper was manned by an officer and four fire fighters. Immediately on arrival at the school, the crew split with some of the men raising a 24-ft. ladder and a roof ladder on the north side of the north wing and the remainder of the crew running a 2½-in. line from a hydrant at a nearby street intersection to the pumper. Another 2½-in. line was connected to the pumper and was run from the engine to the stairway where the fire was located. A 1½-in. line was used briefly.

**(*Right*) Aerial view of school fire disaster showing involved north wing of U-shaped building. It started at the basement level of the stairway, spread up the open stairway and mushroomed at the second floor ceiling, then extended through the length of the 84-ft. corridor. Wood interior trim and children's winter clothing hung on hooks added fuel for fire in the corridor. (*Associated Press Wire Photo*)**

The second engine company in laid two 2½-in. lines with fog nozzles and tried to drive up the stairs in the front to clear the corridor of smoke and heat. The intensity of the fire was so great that this crew was forced to withdraw.

During the five or ten minutes that the fire burned before discovery it is surmised that it developed rapidly. Burning was greatly intensified when the window in the stairwell at basement level was broken by the heat, permitting a

## School Inspection Short Check List

If you can check all these items "yes," your school is reasonably safe. (*8½-in. by 11-in. copies of this School Inspection Short Check List are now available for fire department distribution. Price is $1.50 per 100 copies; $10 per 1,000.*)

### 1. Stairways Enclosed? ☐ Yes ☐ No

Stairways must be enclosed in partitions to prevent upward spread of fire and smoke. Metal lath and plaster or wired glass will suffice in existing buildings. All exit doors must swing with exit travel. Stair doors must be self-closing and should be kept closed. Mark "No" if doors are missing or if you find any stair door held open with wedge.

### 2. Enough Properly Arranged Exits? ☐ Yes ☐ No

Are there two ways of escape from every room? A single room door entering a common corridor with an enclosed stairway at each end may be counted as two ways of escape. Direct passage outdoors is best. Is the capacity of exits adequate? A unit of exit width is 22 inches wide. To determine exit adequacy, figure one unit per 100 persons on level, one unit per 60 persons on stairs. Several floors may use same stair exits. Exit within 100 feet of any room door; 150 feet in sprinklered building. Mark "No" if uncertain as to adequacy or capacity of exits.

### 3. Interior Finish Safe? ☐ Yes ☐ No

Much highly combustible interior finish has been used in schools, particularly schools of a temporary character. Any acoustical tile or fibreboard more combustible than wood is dangerous. Plaster is safe in corridors. Look for Underwriters' Laboratories' Tunnel Test rating. Don't be misled by small scale tests. Any normal interior finish is reasonably safe in a sprinklered building. In case of doubt, coat with flame retardant paint. If uncertain as to combustibility, mark "No."

### 4. Are Combustible Materials Safeguarded? ☐ Yes ☐ No

It is not enough merely to collect wastepaper and rubbish daily. Where are these waste materials put? In a fire-resistive rubbish room with fire doors, or in burlap sacks at the bottom of the stairs? How are old papers of various kinds kept? How about manual training rooms and similar occupancies? Remember that any loose combustible material is subject to ignition by a chance spark.

### 5. Proper Fire Exit Drills Held? ☐ Yes ☐ No

To be of value, fire exit drills must come without warning. Advance notice that a drill will be held at a specified time, so students can get their coats on and be prepared for the outdoor cold, nullifies the value of the drill. Everyone must participate. Drills must be varied to use different exits, on the assumption that any single exit may be blocked by smoke.

### 6. Effective Plan to Call Fire Department? ☐ Yes ☐ No

Having the fire department there promptly may mean the difference between life and death. The situation varies in different localities so no universal plan can be specified. The recommended arrangement is to have a connection to the fire department attached to the school fire alarm system so that if the alarm is sounded for fire, the firemen come (may be waived for drills). Don't hesitate to call the fire department in case of doubt — they would rather respond needlessly a hundred times than to lose one life because they are not called *in time.*

***There are many other features of school fire safety that should be covered in any complete inspection, such as construction, protection of heater rooms and shops, extinguishing equipment, safeguarding of hazards, automatic sprinklers, automatic and manual alarm equipment, etc. For details see the Building Exits Code, NFPA No. 101, available at $1.50 per copy from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.***

The practice of treating telephone alarms for building fires as "still alarms" has been responsible for a great many serious losses in cities where this method is followed. Good practice procedures and fire service recommendations call for sending a "box" response to all telephone calls for building fires. In a large city this would bring at least three engines and two aerial ladders plus auxiliary units. It is particularly important that the full response be sent in all cases where life hazard will be anticipated, and adequate crews will be needed for rescue. The practice followed by the fire department in Boston where the NFPA headquarters are located, can be cited as an example of what is generally considered to be the correct procedure for response to alarms. All calls for building fires whether received by street box, telephone or other means are given the box alarm response due in the particular district, and this includes at least two aerial ladder companies. Where only the first due companies are needed, the others are turned back by radio, but they are automatically on the way to take advantage of the first few minutes of any fire where rescues may be necessary. Every school has a city fire alarm box on the outside and the response to these boxes is never reduced even at times when reduced assignments are in effect because of high fire frequency. Also, certain boxes where there is a special life hazard bring three aerial ladder companies on the first alarm.

The time has now come when every fire department should review its response assignments to schools and other places where a life hazard might be anticipated and make sure that full response is promptly given to any call that is received from these locations. It should be kept in mind that not only may several minutes be saved in getting the full response needed for rescue, but when only a "still alarm" response is sent, the few men arriving with the first apparatus have their hands full, and men who should be running lines to control the fire, particularly where it is cutting off exits, must be shifted to ladders. Also, the "still alarm" response does not give adequate coverage for a large building because there will not be sufficient companies to approach the fire from different directions.

good supply of fresh air to enter the fire area. Hot fire gases and smoke billowed up the chimney-like stairwell and mushroomed through the second story corridor at ceiling level. From all available indications there was no actual burning in the second story at the time second story occupants first noticed smoke. However, the occupants of several of the classrooms in the second story of the north wing reported that after doors had been opened and then quickly closed to keep out smoke a "whoosh" was heard. This noise is thought to have accompanied the ignition of fire gases and combustible interior finish in the corridor. As heat began breaking large glass transoms over the doors, hot fire gases and flames entered the classrooms. Fire also entered the shallow roof space through a ventilation grill in the corridor ceiling.

This was the apparent situation in the second story of the north wing when the first piece of fire apparatus arrived. Since the major efforts of firemen had to be directed toward rescue during the early stages, the fire in the second story grew steadily worse and eventually burned off about one-third of the roof before being controlled.

Hot smoke and fire gases that came up the open rear stairway and mushroomed through the second story corridor of the north wing had been noticed by occupants of classrooms off the corridor before the building alarm rang.

On hearing the building fire alarm, occupants of the entire first floor left the building, apparently without confusion and unaware of the fire.

Evacuation of the second floor of the annex and south wing was hampered by smoke which came through an open door in the division wall at the second story level. This door was closed early in the fire, possibly by a fireman who had entered the building to assist in rescue, or by the janitor. While many of the occupants of the second story of the south wing and annex reached the street without difficulty, there were instances of panic. When some of the pupils of a second story classroom in the south wing refused to leave, their teacher ordered them to crawl to the stairway. When they balked at the stairway, she rolled and pushed them down. Several pupils in the second story of the south wing were taken down fire department ladders.

There is no question that if a complete, properly installed and adequately maintained automatic sprinkler system had been in Our Lady of the Angels School the fire at the base of the stairwell would have been quickly extinguished before smoke of any consequence had penetrated the upper story. It is, however, questionable practice to rely on fire extinguishment to the neglect of exits because of the possibility of both human and mechanical failure. Automatic sprinklers and stairway enclosures complement each other and both should have been installed in this school.

In existing buildings that lack enclosed exits and where it may be impractical or too expensive to enclose them, the Building Exits Code suggests the following substitute. The school building can be occupied safely if (1) it is equipped with a standard automatic sprinkler system, and (2) if there is a standard exit of sufficient capacity from each room so that the occupants can escape without passing through any corridor which could be blocked by smoke, heat or fire. This condition may be met in various ways, such as providing doors leading directly outside from first floor rooms and by direct access to fire escape balconies from every room on upper floors.

In the absence of an automatic smoke vent at the top of the stairwell where the fire started, all products of combustion from the fire in the stairwell were forced into the second story corridor. The presence of a vent would have reduced considerably the amount of smoke and hot fire gases that entered the corridor. A smoke vent, however, is not a substitute for proper stairway enclosures. It should be used in conjunction with such enclosures.

# AIR ATTACK ON BRUSH FIRES

IN THE past few years, the use of aircraft on brush and forest fires has become an essential factor in tactical fire fighting operations. As reported in the August, 1957, issue of FIREMEN magazine, the Division of Forest Fire Research, Forest Service, U. S. Department of Agriculture, conducted a series of tests in a two-year period to determine the effectiveness of water-borate slurry applied on fires by air attack. The slurry was made by mixing sodium calcium borate with water, then the solution was dropped on the fire edges with specially equipped aircraft.

In California during the past year, aircraft have been used more and more frequently for this purpose. The unusual photos on this page show two such operations in Los Angeles County during 1957 and indicate clearly the coverage that can be expected from such air attack. The plane in the above photo is a PBY; below, is a Trans-land AG-2 "Crop Duster."

This is a dangerous assignment for pilots and several have been killed in the past few years while trying to cope with extensive ground fires. While air attack seems particularly adaptable to the brush fires on the West Coast, forestry agencies in other sections of the United States and Canada have given consideration to this method of fire control. New York State last year spent more than $20,000 to equip an aircraft to experiment with this type of attack and, as reported previously in FIREMEN magazine, the Department of Lands and Forests, Province of Ontario, Canada, has also spent considerable time and effort in developing practical "water bombing" techniques. (*Los Angeles County Fire Department photos.*)

## COMING UP . . .

# THE 30TH FDIC!

**Memphis, Tennessee, once again plays host to this important conference of fire department instructors February 24-27, 1959. Accent is on new ideas and techniques of fire control.**

**by Emmett T. Cox, FDIC Chairman**

NEXT month the well known Fire Department Instructors' Conference meets in Memphis, Tennessee. This will be the 30th FDIC; the 25th to be held in Memphis. Chief John C. Klinck of the Memphis Fire Department will be host and co-chairman with Emmett T. Cox of the Western Actuarial Bureau as Chairman. Other officers are: Harry H. Wolff, Western Actuarial Bureau, secretary; Robert F. Hamm, Indiana Rating Bureau, and John E. Barman, Missouri Inspection Bureau, assistant secretaries; J. I. Fetters, University of Illinois, and Captain D. E. Mallory of the Memphis Fire Department, assistants to the Chairman; H. A. Ritgerod, press secretary, assisted by Carl E. Smalley, Arkansas Inspection Bureau, and L. F. Holland, Dallas, Texas, historian.

On Sunday afternoon, February 22, at 2:00 P.M. there will be quite a program put on by the city of Memphis at the dedication of the new training center. All conference members are invited to come early and look over the training facilities, said to be among the best in the nation.

The Conference will open on Monday morning with a memorial service for the late Richard E. Vernor, who for many years served as co-chairman of the FDIC with Chief Klinck. Other highlights scheduled for the week-long program are as follows:

*Training for Discipline* — Charles Webber, Michigan Civil Service Commission. *Academic and Vocational Conflicts in Training* — Keith Royer, Iowa State College. *Confusion or a Chartered Course* by Assistant Chief O. C. Cunningham, Lexington, Kentucky, Fire Department; *Liquid Metal and Rocket Fires* by C. A. Harryman of Tullahoma, Tennessee.

Two outstanding luncheon speakers will be Congressman Clifford Davis who made the first formal address when FDIC started in Memphis 25 years ago, and Governor-Elect Millard Tawes of Maryland, past president Maryland Firemen's Association, and the man responsible for the first Maryland appropriation for fire training years ago.

Many outside evolutions and demonstrations by the Memphis Fire Department will be held during the week, such as extinguishment of fire in a diesel locomotive and handling rocket fuel fires. A new fire-resistive suit will also be shown. There will be a mass fire demonstration with several buildings involved at the same time and the fire department will move to attack with modern techniques. Also to be shown is a specially painted house between two other houses. The house on either side will be ignited and allowed to burn to the ground showing the fire resistivity of the house in the middle.

A report on gas in water mains will be made by Chief J. H. Wade of Belleville, Illinois. Hubert Walker of Elmira, New York will discuss *New Trends in Fire Apparatus.* A very interesting talk on the toxicity of gases will be given by Dr. Lester L. Williams, Fire Department Surgeon, Colorado Springs, Colorado. James J. Duggan, Union Carbide Chemical Company, So. Charleston, West Virginia, will cover *Fire Hazards of Metals in Industry. Every Officer and Instructor* will be handled by Captain Robert Catlett of the Louisville, Kentucky, Fire Department. Another very timely subject, *Model Missiles Mean Mayhem,* will be covered by J. V. Neeson of the San Bernardino Air Materiel Area, Norton Air Force Base, San Bernardino, California. A new item *Press Photographers Panel* will be handled by Charles T. Higgins of Philadelphia.

Loren S. Bush, Vice President, NFPA and Chief Engineer of the Board of Fire Underwriters of the Pacific, will present *The Future of the Fire Service.* The Diamond Alkali Company of Painesville, Ohio will put on an outstanding demonstration of handling chlorine gas emergencies. E. Wade Thomas, Assistant State Fire Marshal of West Virginia, will present the subject *All Aboard.* Donald Mees, engineer of the Mountain States Inspection Bureau, Denver, will talk about *Your Fire Department Records.*

Men from Topeka, Kansas, will demonstrate a method they took home from FDIC several years ago, show how they improved it and tell of the good it has done their community. Home inspections will be featured when Chief G. L. Sartain of Tulsa, Oklahoma, tells *This Is How Tulsa Did It,* to be followed by *The Volunteers Can Do It, Too* by James C. Robertson of the University of Maryland.

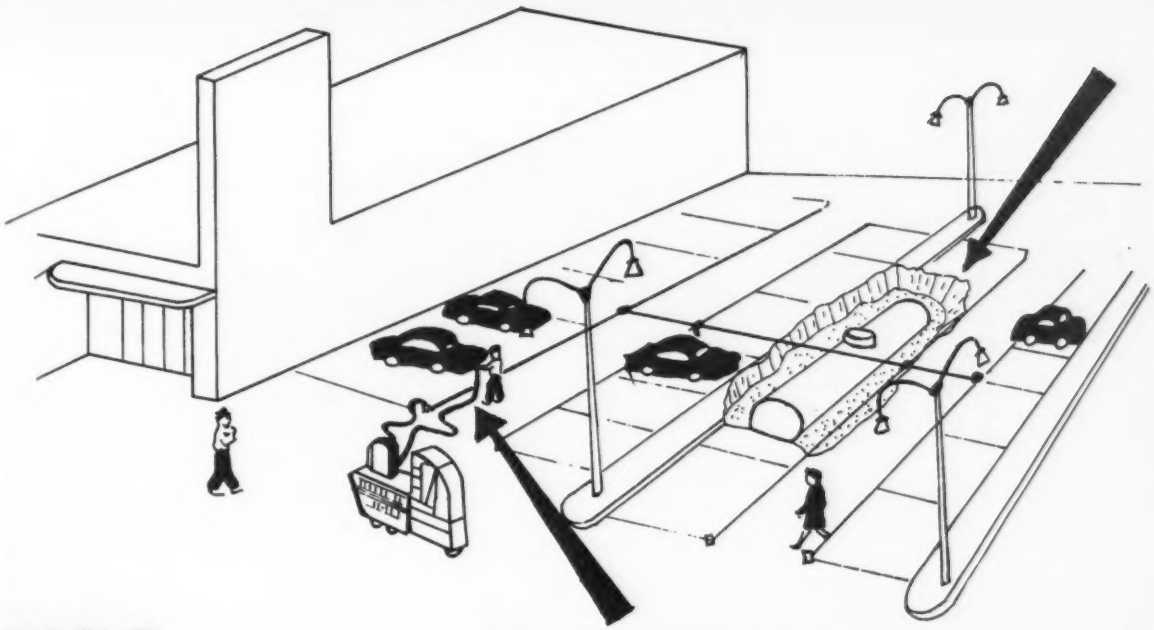
On the last day a complete report will be given on the disastrous Chicago school fire. This will be followed by a movie made in 1919 that will give an idea of how far we have progressed in 40 years. Second last item will be *Nuclear Weapons Fire Control* which will be followed by the popular 1959 FDIC Follies.

Other meetings to be held in connection with the 30th FDIC will be as follows:

The Exploratory Committee on the Application of Water will meet at the Claridge Hotel at 6:30 p.m., Sunday, February 22nd. There will be a dinner followed by the annual meeting of the Committee at which time a new movie will be previewed. You are welcome to attend this meeting whether you are a member of the Committee or not. However, it will be necessary to make reservations through Emmett T. Cox, P.O. Box 1089, Chicago 90, Illinois.

The NFPA Fire Service Training Committee will meet at the Claridge Hotel at 9:00 a.m. on Monday, February 23, for their annual meeting which will be followed by a luncheon.

The Fire Service Training Association, an organization representing the states and agencies using the fire service training manuals (Oklahoma Red Books) will hold its annual meeting on Monday, February 23 at 6:30 P.M. at the Claridge Hotel. All are welcome but dinner reservations should be made directly with Professor R. J. Douglas, Campus Fire Station, Oklahoma State University, Stillwater, Oklahoma.



Lack of control in supermarket peddling of gasoline conflicts with the provisions and intent of Chapter VI of NFPA No. 30 covering devices and methods for dispensing Class I and Class II flammable liquids.

# FIRE CHIEFS—

## Watch out for these new "not approved" methods of peddling gasoline!

IN RECENT months the NFPA has been asked for statements on three new methods of selling gasoline. Here's how gasoline is being handled in the mid- and southwestern sections of the United States.

1. A system of underground piping under a supermarket parking lot is supplied from a pump located at an underground tank. A portable dispensing cart makes connection to the underground piping system through flush type hydrants. The gasoline is then dispensed into the customer's car in the parking lot.

2. A portable service station for use by the public consists of a compartmented tank of approximately 8,000 gallons capacity mounted on a steel skid. Pumps and dispensing units are placed on each end of the tank on the skid.

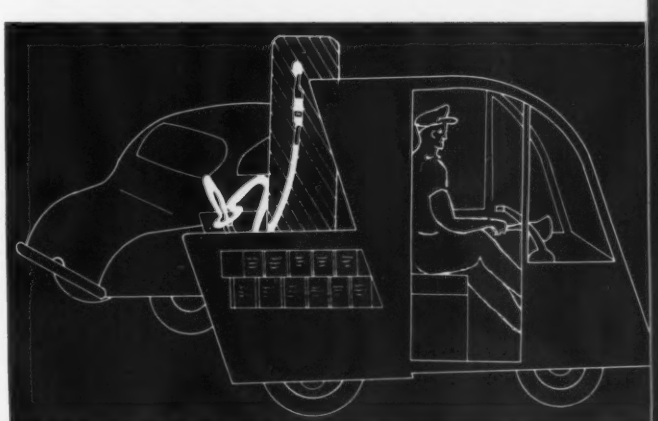
3. A modified electrically-driven golf cart tows a compartmented 300-gallon gasoline tank for dispensing gasoline into cars at supermarket or other large parking lots.

At the November meeting of the Sectional Committee on General Storage of Flammable Liquids the first two methods were fully considered. In both cases the members of the Committee were unanimous in recommending against these dispensing systems. The third equally flagrant abuse of fire protection principles has only recently come to the attention of the NFPA.

Any state or municipality which has adopted the Flammable Liquids Code, NFPA No. 30, has the right to prohibit such installations under the provisions of the chapter on Service Stations. Section 6211 of this chapter states that Class I and Class II flammable liquids shall be stored in closed containers, in tanks located underground or in tanks in special enclosures described in Section 6220. The latter section has provisions for these enclosures, such as a concrete vault for storing Class I and Class II flammable liquids in buildings. Service stations have had an excellent fire record because of past observance of these standards.

As one member facetiously stated, the next step will probably be the selling of gasoline in paper bags.

If your community or State has not yet adopted the Flammable Liquids Code, order a copy from NFPA (price 60 cents), study it, then give consideration to how its recommendations will improve life safety from fire in your community.



Modified golf cart dispensing unit also does not meet recommendations of NFPA Committee on Flammable Liquids.

ROUNDUP TIME at Chincoteague Island, Virginia, each year is a unique "rescue" by volunteer firemen who guide these ponies in a 1¼-hr. swim across the channel from Assateague Island, Virginia, (background) for a Department fund-raising auction. The horses are believed to be descended from Arabian mounts left by pirates in the days of the Spanish Main, and are allowed to roam free — until the yearly sale. *(United Press International Photo)*

# RESCUES OF A YEAR GONE BY!

**Horses and humans in trouble in 1958 brought on-the-spot improvising by fire fighters and rescue squad members. Typical rescue action of the past year is shown in the photos on these pages.**

BOY UP A TREE, after wading in a flood-crested creek, was saved by firemen in San Leandro, California. Fireman on aerial ladder (top) is throwing him a line. *(Wide World Photos)*

MARE'S SHANKS were injured slightly when she broke through floor boards of a truck. Washington, D. C., rescue squad members worked for two hours to get her loose. After several attempts to lift her with canvas straps chained to a cable, the men were successful and "Dell" walked back to her stable with a dignified limp. *(Photo by Wally McNamee, Washington Post and Times Herald)*

. . . **STRONG FINGERS** saved this workman in Lynchburg, Virginia, who clung to dangling ladder after scaffolding broke for a half-hour before the fire department was called to rescue him. Another workman, not so lucky, dropped to his death. *(Wide World Photos)*

**LADDER LITTER** was lowered by fire fighters in Philadelphia, Pennsylvania, to rescue unconscious woman from burning building. Note guide rope at right. *(Wide World Photos)*

MEMBERS of fire departments and rescue squads always have to be prepared for the unexpected. In the course of a year, the fundamental action of "rescue" by fire department personnel will encompass situations ranging from the hilarious to the tragic and such fundamental tasks as releasing a pinched finger or lifting an elephant. (Last year's report of the Bombay, India, Fire Brigade included mention of a rescue of a ten-ton pachyderm that had fallen into a ditch. The fire brigade members used a winch to haul her out and she waddled away.)

Almost every rescue situation is unique and calls for confident, well-trained action on the part of the rescuer. Experienced fire fighters rescuing an animal or human being who is endangered usually react to the situation as they do to the job of fighting and controlling fire. In a split second, they make a size-up, decide on a method of handling the situation and then take action.

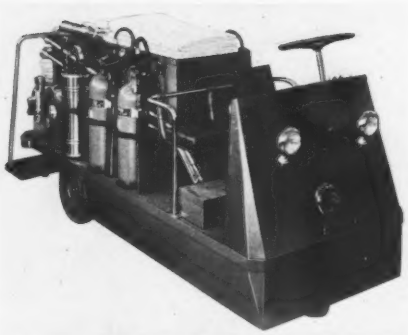
In the size-up the fire fighter quickly considers the following questions: Who is in danger, what is the danger, and how great? Are there other victims in the same or worse plight? What can happen?

Perhaps he might consider a few other elements but in any case, he quickly decides on a method of handling the situation: Am I alone or do I have help? What equipment is available? Is there time to use it? Do I know how to use it effectively? Is there time to wait or must I act now without any equipment? (As Dr. William D. Claudy pointed out in his article on "Mouth-to-Mouth Resuscitation" in last month's issue, there will be instances where a fire fighter or rescue squad man will not have time to wait for an oropharyngeal airway and must apply his mouth immediately to the victim's. Also, refer to page 11 of the November issue.)

Finally, the rescuer must take action. He has to be quick, confident, and substantially correct in getting the victim from a bad situation to security. In the meantime, he must think of his own protection even though he may be ready to give his life to save another. An injured or dead "rescuer" is not much help to the victim.

The photos on these pages are only a few examples of what happened in the past year. Without a doubt, in 1959, fire fighters once again will be making similar rescues "round the clock" in every corner of the world.

**STRONG TOES** prevented this fire fighter in Atlanta, Georgia, from slipping off roof of three-story burning building. He braced his feet in drain gutter waiting for another fire fighter, barefoot to avoid slipping, to inch his way down with hose. *(Photo by Bill Young, the Atlanta Journal)*



**Industrial Fire Truck.** Length 108 in., width 40 in., height 53 in., wheel base 64 in. Pay load one ton plus up to 5 men. Speed 10 to 12 mph or to customer's specifications. This 3-wheel truck can make 90 degree turns in aisles as narrow as 7 ft. Can be modified to fit specific hazard. Sometimes equipped with pump, water tank, dry chemical or $CO_2$ extinguishing agent, hose, nozzles and other equipment.

*Manufacturer — Electri-Car Division of Victor Adding Machine Company, 3900 North Rockwell, Chicago 19, Illinois.*

**In-Plant Fire Fighter.** (For heavy duty) Length 180 in., width 48 in., height 78 in., wheel base 76 in. Has a 120 hp Chrysler engine, a 500 gpm Class A single stage centrifugal pump, a 200 gallon booster tank, foam and wet water proportioner, deck gun, 350 lb. dry chemical unit, electric booster hose reel, hose bed for 200 ft. of 2½-in. or 1½-in. crl fire hose. Narrow tread chassis is featured and vehicle has a 16-ft. turning radius. Modified for specific needs.

*Manufacturer — W. S. Darley & Company, Chicago 12, Illinois.*

## Here are some

# PLANT FIRE TRUCKS

**A selected group of vehicles that may be used in industrial plants to supplement existing fire protection, by carrying personnel and first aid fire fighting appliances for attacking incipient fires.**

OCCASIONALLY, fire protection personnel of industrial plants ask about the type of vehicle suitable for "in-plant" fire protection. Because these generally are in the category of first-aid fire fighting appliances and because each vehicle must be designed for a specific plant, there are, so far, no general design or performance specifications. However, because of the interest shown for such equipment, a sampling of in-plant fire trucks available on today's market appears on these pages.

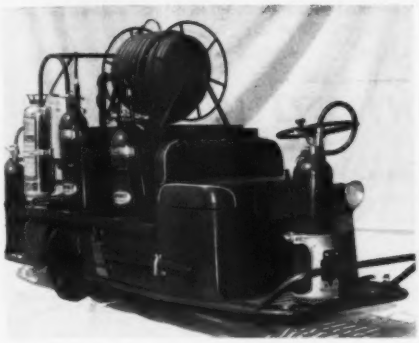
In general, such vehicles have to be designed to fill specific needs. In some instances, the recommendations in NFPA Standard No. 19 — "Specifications for Motor Fire Apparatus" may apply. Usually, however, such vehicles are small, carry only basic equipment with perhaps a few men, and travel at only moderate speed. Primarily, they serve as a means for carrying extinguishers, tools and other basic equipment to the scene of

**"Emergency Vehicle."** Designed for plants, warehouses, motels and marinas, this unit carries a 14-ft. extension ladder that can also be used as an "A" frame ladder, plus foam and dry chemical extinguishers. Manufacturer's suggested list of accessory equipment includes resuscitator, gas masks, stretcher, portable two-way radio, hand lights, tools and other items.

*Manufacturer — The Lofstrand Company, Rockville, Maryland.*

**"Sentry Minitruc."** Mounted on a jeep chassis with 4-whee drive transmission, this vehicle has 400 gpm pump rated at 250 psi, a 100 gallon booster tank with 100 ft. hose reel, carries a 100 lb. banked carbon dioxide unit, with 50 ft. reel, extinguishers, nozzles, ladders, and other equipment. Hose rack on top carries 150 ft. of 2½-in. hose. Other equipment includes two 10-ft. lengths of suction hose, nozzles, applicators, etc.

*Manufacturer — Sentry Safety Service, 80 Wall Street, New York 5, New York.*



**"Marketeer" Model 200.** Length 96 in., width 38 in., height approx. 40 in. Pay load 2,000 lb. (including two people). Powered by six 170-ampere-hour batteries and a 4½ hp DC motor, this 3-wheel truck has 8 speeds forward and reverse. Platform is 38- by 60-in., changed on request. Six and twelve-ampere battery chargers, voltage regular, head and tail lights are extra. Top speed approx. 15 mph.

*Manufacturer — The Electric Marketeer Manufacturing Company, 2195 West Highway 99, Redlands, California.*

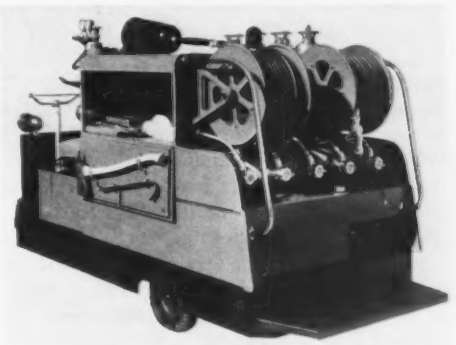
**In-Plant Fire Truck.** (Several models available) Length 135 or 121 in., width 48 or 42 in., height 75 or 67 in. Carrying capacity 7,800 or 4,950 lbs. Top speed 15 mph, turning radius 8 ft. Chassis equipped with two cylinder 14.6 hp Wisconsin air-cooled engine. Three or four speeds forward, one reverse. Speed 15 to 25 mph. Carries 150 or 300 lb. dry chemical extinguishers; 150 or 200 gallons of water, nitrogen cylinders, 50-ft. length of ¾-in. chemical engine hose, a 100-ft. length of ¾-in. high pressure booster hose and nozzles.

*Manufacturer — Ansul Chemical Company, Marinette, Wisconsin.*

the fire emergency. Some units, though, have large volume or high pressure pumping capacity which proves useful in attacking incipient fire.

Basically, these vehicles have to be quite maneuverable to negotiate the narrow aisles and ramps likely to be in an industrial plant. They should be easy to start, easy to drive and should be operated by personnel trained in the safe and efficient handling of such apparatus. Some of the recommendations in NFPA Standard No. 505 — "Industrial Trucks" can be followed in developing safe operating and maintenance procedures for these plant fire trucks. Particularly important are the recommendations for fuel handling, storage and operation in hazardous areas.

The vehicles shown on these pages are all basic models and can be modified to suit the requirements of specific plants. For more complete description of each truck pictured, write to the manufacturer at the address listed.

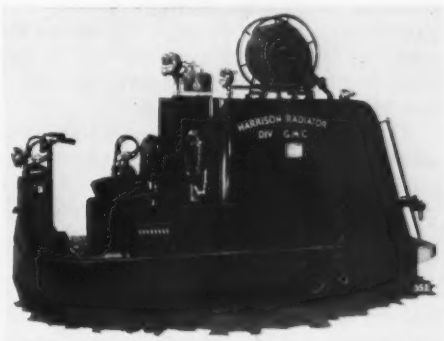


**In-Plant Fire Truck Model S-556.** Length 131 in., width 50 in., wheel base 77¼ in. Carrying capacity 3,500 lbs. Speed 15 mph, three speeds forward and one reverse. Turning radius 96 in. Carries 150-lb. dry chemical unit having 50 ft. of ¾-in. hose, a Pacific rotary pump with a capacity of 15 to 18 gpm at 250 to 200 psi. Also has 150 gallon booster tank, a 75 foot length of ¾-in. high pressure booster hose, a 250 lb. carbon dioxide system with five 50 lb. cylinders manifolded to 100 feet of hose, and a foam proportioning unit.

*Manufacturer — Seco Engineering and Manufacturing, Inc., 1300 West Fort Street, Detroit 26, Michigan.*

**Plant Fire Fighter Model HH-265-ST.** Length 135 in., width 48 in., height 82 in., wheel base 76 in. Speed 25 mph maximum, four speeds forward, one reverse. This high pressure fog fire fighter has a pump rated at 65 gpm, 800 psi, two booster reels, each with 100 feet of ¾-in. high pressure hose, a 200 gallon tank, and it is powered by a 108 hp, six cylinder engine. Can negotiate 90 degree turn from one 8-ft. aisle into an intersecting aisle. Steel frame has removable side panel, top-mounted ladder.

*Manufacturer — John Bean Division, Food Machinery and Chemical Corporation, Box 840, Lansing 4, Michigan.*



**"Youngster."** Length 131 in., width 42 in., wheel base 77¼ in. Turning radius 96 in. Carrying capacity 3,500 lbs. Weight 1,450 lbs. Speed 15 mph, three speeds forward and one reverse. Has a Hale HPZF pump, 100 feet of ¾-in. high pressure booster hose with a Rockwood SG-47 nozzle, a 150 lb. dry chemical extinguisher unit, a 150 gallon booster tank and miscellaneous equipment.

*Manufacturer Young Fire Equipment Company, 1548 William at Bailey, Buffalo 6, New York.*

## PROBLEMS IN

# Academic Fire Protection Education

**From a talk at the NFPA Fall Conference in Richmond, Virginia,
by John L. Bryan, Professor and Head, Fire Protection Curriculum, University of Maryland**

AS MOST of you know, the University of Maryland since 1931 has had a strong and active training program in the education of firemen. The Fire Service Extension Department of the University of Maryland was organized in 1937 to direct and promote this activity. This organization has made tremendous progress, especially in the last few years, and is continually expanding its activities under the present director, Robert C. "Bob" Byrus.

In 1956, the University of Maryland established, under the College of Engineering, a four-year academic program in fire protection, leading to a Bachelor of Science degree. This program currently requires a total of 140–142 semester credit hours for graduation from the University. Students must meet the entrance requirements for the College of Engineering, and they are subject to the same academic standards as are all other engineering students.

The first two years of the curriculum are generally identical to that required of students majoring in other programs in the College of Engineering. In the junior and senior years, the student specializes in fire protection, and the related subjects, with a supporting group of subjects consisting of fourteen semester credit hours in Civil Engineering.

The fire protection curriculum in its development had a threefold objective: A program designed to emphasize the scientific and technical bases of fire protection; a program developed considering the humanitarian aspects of fire protection, and a program emphasizing the development of the individual.

We visualize fire protection as being a configuration or grouping of sub-areas of specialization. We have attempted to develop a program that gives the student a broad background of information, knowledge and skill to prepare him to enter into any of the specialized areas, as follows: Public Protection, Industrial Protection, Proprietary and Supplemental Services, Education, Insurance, and Research.

The problems which are the central theme of this talk are not necessarily new to many of you, but they are of intense concern to us in our attempts to develop and carry out a program in academic fire protection. From our experience at the University of Maryland, I can readily understand why there have not been more academic fire protection programs established at institutions of higher learning in the United States. The problems that we feel face fire protection education are: "*Problems of Recognition*," "*Problems of Resources*," and "*Problems of Research*." The three R's of fire protection education must be solved if we are to make genuine progress.

It is only in this manner of intelligent investigation that we will obtain realistic, practical, and lasting solutions. It is not enough to settle for temporary solutions, or solutions that only complicate the overall goals of fire protection education, and in the final analysis eventually create problems of greater magnitude and severity.

Let us consider the problems we have classified under the first designation — *recognition*.

I think it is unfortunate that so many of us assume that because we accept or understand a viewpoint, the same viewpoint is generally understood and accepted. Everyone realizes that fire protection is an area of endeavor that requires constant study and examination of principles for effective results. However, there are many persons in educational institutions that will question our viewpoint that fire protection is a legitimate area of academic study, and to them, offering a degree for study in such an area amounts to a subversion of our system of higher education. We must obtain recognition from the educators and scientists in other areas of study on our college campuses.

There are several important sub-problems we need to recognize and attempt to correct. We need to "*educate the educators*" in our academic fire protection programs and in our fire training extension type programs. We need more persons with advanced graduate degrees, persons who have experienced the discipline of intelligent, rigorous, scientific study. Second, we must attempt to correct the *plagiarism*, which is so widespread in the writings and teachings of fire protection. Important to this point, and concurrent with it, is the need for the development of *professional ethics*, and a strict code of standards for writing, teaching, and consulting in fire protection education. This last point is especially important when we consider that many of the educational and engineering activities are being offered for expensive fees to industrial concerns.

The central problem in getting recognition for fire protection education stems from the fact that the Engineers' Council for Professional Development has not yet accredited a four-year program in fire protection engineering in the United States. This is not a new problem. Professor Ahern of the Illinois Institute of Technology, and more recently, the Society of Fire Protection Engineers have been most concerned with it. The Engineers' Council for Professional Development has accredited the two-year program of study in fire protection, leading to an Associate Degree at Oklahoma State University since 1948. The attitude of the Council appears to be: Fire protection is important enough for two years of study but not important enough for four years of study. This is a problem that we must recognize, then do our utmost to change the situation.

Let us now consider some of the problems under the second classification of *resources*. By resources I

(*Continued on page 24*)

# NEW DARLEY IN-PLANT FIRE FIGHTER

erything available for fast action fire fighting with maxi-um effectiveness on the variety of fire hazards found in odern industrial plants.

th the deck gun you can deliver fire blasting pressure g wherever needed to extinguish, cool, smother fire her from the truck or from the ground. Or the powerful 0 Gallon Champion Pump will deliver a long range solid eam through the gun.

## Completely Self-Contained

**For most fires the 200 gallon tank water supply applied as fog will control the fire. The two booster reels each carry 200 feet of hose always ready for quick action — no delay connecting to hydrants, no delay unloading hose and connecting to pump discharge.**

**For fires in oils, gasoline, grease, chemicals, electrical equipment, etc., you have available a foam tank, dual foam and wet water proportioner, 350 lb. dry chemical tank with discharge hose.**

**A versatile In-Plant Fire Fighter ready for and equal to any demand you may place on it.**

The long felt need in many industries for a fully equipped, completely mobile, power packed pumping combination, capable of delivering 500 gallons or more at 150#, 375 gallons at 200#, 250 gallons at 250#, and 60 gallons at 350#, is now realized in the Darley Champion PKF500 Industrial Fire Fighter.

### EASY TO MANEUVER THROUGH NARROW AISLES

Narrow aisles are no longer a problem. The Darley self-contained fire fighter measures only 180 inches overall length and having a 16 ft. turning radius, will negotiate narrow aisles and intersections. Wheelbase 76 inches.

### CARRIES ITS OWN WATER SUPPLY FOR INSTANT ACTION

The Model PKF500 Darley Champion 500 GPM Class A Pumping Combination, including 200 gallon booster tank, foam tank, wet water tank, dual foam/wet water proportioner, deck gun, 350 lb. dry chemical unit, electric booster hose reels (2 — total capacity 400 ft.), hose bed for accommodating 200 ft. of 2½" cotton rubber lined fire hose or a greater amount of 1½" is now in production.

### 120 H.P. ENGINE

A specially designed mobile fire fighting unit installed to a ruggedly constructed narrow tread chassis (overall width 48", overall height 78"), powered by a Chrysler 120 HP. 6 cylinder water-cooled engine, serving not only as the prime mover but in addition for driving the fully approved Darley Champion KFF500 Class A Single Stage Centrifugal Pump, that has served Government, Municipal and Industrial Fire Departments throughout the world for many years.

The unit illustrated is for heavy duty service. The design, however, is flexible to the extent that variations may be made available for your specific needs.

# W. S. DARLEY & CO., Chicago 12

# Results Are What Count!

**From a talk at the NFPA Fall Conference, Pittsburgh, Pennsylvania by Art Espey, Supervisor of Fire Service Training, Public Service Institute of Pennsylvania.**

ABOUT twenty years ago, in Pennsylvania, a movement was under way to organize a program for uniform, state-wide training of fire fighters. Since our fire departments are mainly volunteer, with members whose daily occupations keep them away from the fire stations, the best plan seemed to be to assemble them on convenient evenings at selected centers.

Realizing the pressing need for competent instruction, the educational committee of the Firemen's Association of the State of Pennsylvania, with the aid of progressive fire department personnel, decided upon a course of action. Conferences between this committee and the Department of Public Instruction at Harrisburg led to legislation and the formation of the Public Service Institute and the Pennsylvania Fire School. A technical advisory committee of chiefs and other fire officers was formed. Still active are Hugh G. Pyle of Pennsylvania State University, and Chief Charles E. Clark of Wayne, secretary of the State Firemen's Association. It was my privilege to be appointed the first director of the Fire School in 1939.

Local classes in firemanship were begun and qualified part-time instructors were detailed to teach them throughout the Commonwealth over 15-week periods. The program functioned under the provisions of the George-Deen Act and, subsequently, during August, 1939, the first annual Pennsylvania Firemen's Training Conference was conducted at Pennsylvania State College.

Without interruption, classes in the fundamentals of fire fighting have continued, constantly increasing in popularity. Within the local class training cycles, from June, 1956, to date, our part-time instructors have taught 124 classes and 3,340 volunteer firemen earned certificates of attainment.

In 121 state-wide local classes and at 28 regional type fire schools operating within a two-year cycle, 18,487 trainees have participated. To this number may be added the two-year enrollments of students at our 18th and 19th Annual Fire Schools and the student fire fighters trained at the Pennsylvania State Firemen's Training School in Lewistown for the same duration. Our figures then revealed that there were 364 enrolled at the 1957 Annual Fire School, 422 at the 1958 Annual Assembly, and that 520 graduates, and 648 trainees completed our established five-day courses at the Fire School in Lewistown throughout the 1957 and 1958 training cycles. Thus, within the scope of a two-year fire service training activity, we have given practical instruction to approximately 20,441 firemen.

As part of our local training course, we have adopted three mandatory student assignments carried out on the trainees' time, without the aid of the instructor. One comprises a survey of all available sources of water for fire fighting; another, an inspection of all buildings within the high value districts; the last, a "courtesy inspection" of hospitals, nursing homes, schools, theaters, other places of public assembly and, in fact, any type of occupancy involving the confinement of helpless persons. Complete reports must be submitted to the instructor, after which they are discussed and studied at class sessions. Extra credits are recognized when certificates of attainment in the fundamentals of fire fighting are being decided. The assignments have been enthusiastically received. We now have better planning, better informed fire service personnel, corrective action without offense, and good fire prevention.

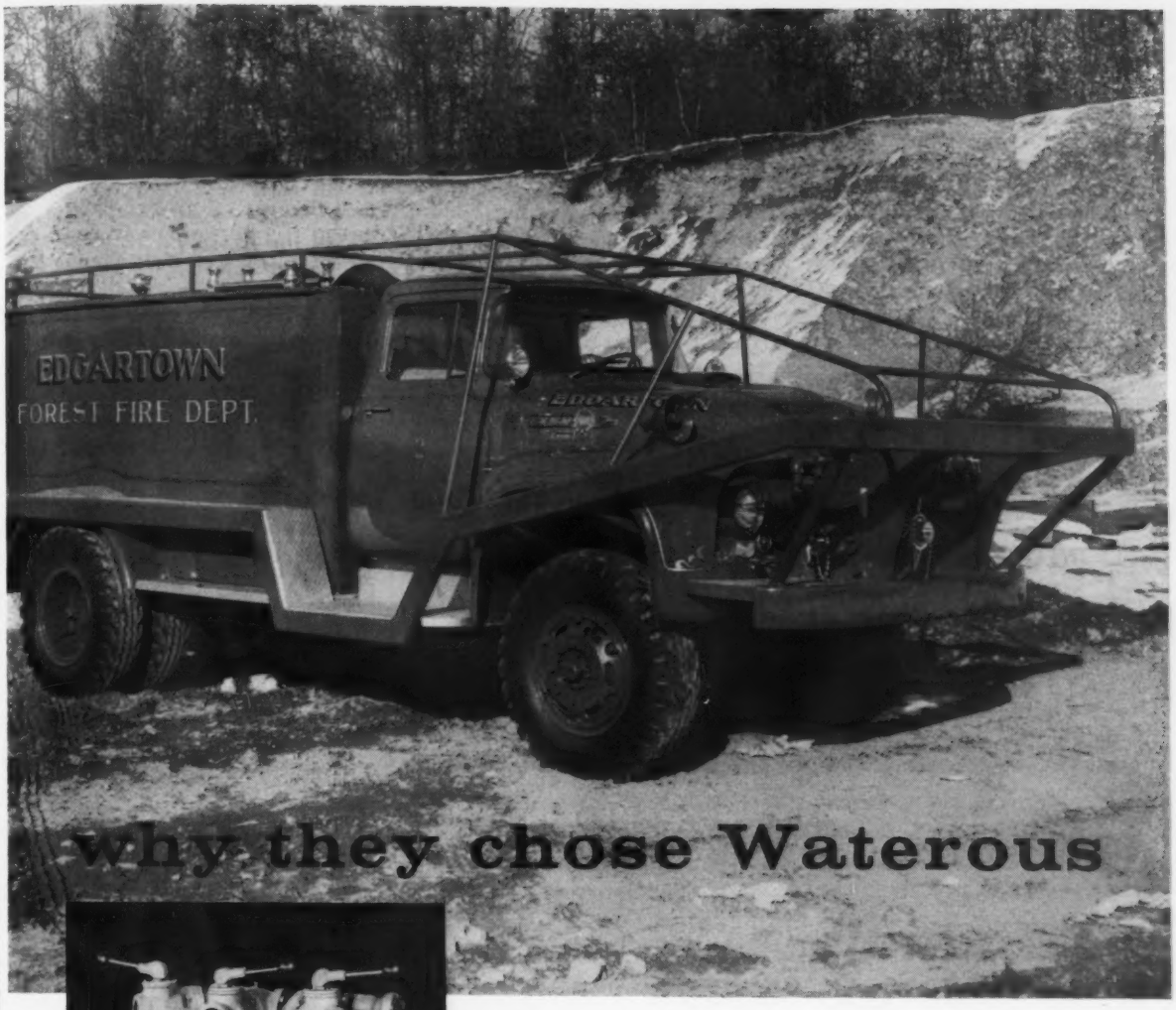
I have always maintained that the efficiency of a fire department is not measured by its casualty list. If there is one phase of our activity at the fire school that ranks very high in importance, it is the matter of safety and self-preservation. This is something that we teach and constantly stress. Instances of unavoidable injury incident to performance under actual fire fighting conditions are rare.

We are very proud of our State Firemen's Training School in Lewistown. Dedicated April 30, 1955, it was put into full operation in 1956. We are very fortunate

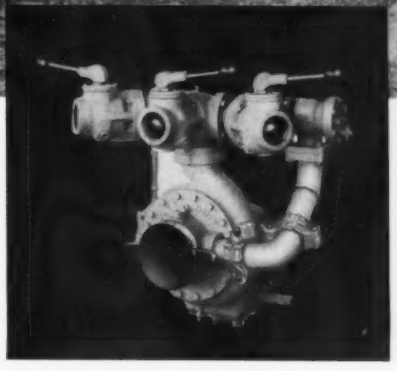
(*Continued on page 25*)

**Pennsylvania Fire Training Building**

Fire training building allows training in a variety of fire fighting conditions. Each section of the building is designed to duplicate a particular type of occupancy. For example, the front section of this picture is a 2½-story dwelling structure; wing at right duplicates a mercantile occupancy; another represents a factory.




# why they chose Waterous



*Model CF-4 pumps more gallons per minute than any other service-proven, front-mounted pump*

WATEROUS' front mounted CF-4 has a 750 GPM Class A Fire Underwriters' rating. Its three 2½" lines for structural fires are recommended by underwriters for many communities.

The CF-4 is a simple, compact unit that can be front mounted on any standard truck chassis. Its impeller shaft assembly is ball bearing-mounted — hydraulically and mechanically balanced to operate smoothly over its entire range — makes use of the truck engine's coolant for winter heating. An over-center, single-plate dry clutch permits positive engagement or disengagement at any engine speed. It's just like the clutch in the truck itself.

Where the advantages of a front-mounted pump are desired, the CF-4 provides superior performance and unmatched reliability.

For complete information on the CF-4 and other WATEROUS fire pumps write:

**WATEROUS** *80 E. Fillmore Ave., St. Paul, Minnesota, Dept. 209*

## Problems in Academic Fire Protection Education

(*Continued from page 20*)

mean the need for students to enter the present programs, and the need for additional institutions of higher education to establish academic programs in fire protection. Students are uninformed about the existence of academic fire protection programs. The guidance counselors are unaware of the needs and opportunities of students who elect to enroll in a fire protection program. In regard to the potential students, the problem is one of communication, and telling our story.

This situation raises another problem in the liaison — cooperation and exchange of information and experiences between the institutions presently offering academic educational programs in fire protection. I feel there is a definite need for communication between the two-year technical programs in Oklahoma and California, between the four-year programs in fire administration in New York and California, and the four-year programs in Maryland and Illinois. I feel the two-year programs in fire protection are essential; I feel the administration and engineering oriented programs in fire protection are essential. The real problem lies in the fact that we have no lines of communication, coordination and cooperation between these programs. All of these programs have the same general objective of protecting our society and civilization from the consequences of uncontrolled fire. The differences are essentially a matter of approach and emphasis to this objective.

The last area of problems in fire protection education concerns the configuration of *research* problems. The basic difficulty in this area is one mentioned earlier in the area of recognition, a problem of personnel, and indirectly it is also a problem of educational programs. We urgently need more research in fire protection. If you examine any area of scientific endeavor you will find that the majority of the research is carried on by two groups, the academic faculty and the graduate students. Thus, it is easy to see why we have so little research in fire protection. We have too few academic faculty in fire protection in the United States, and for all practical purposes we have even fewer graduate students. In any science the graduate students are the shock troops of the research effort, and we have no privates, much less shock troops. In fire protection we also need more free research.

In summary, let me say that I realize it is easy to state problems in comparison to arriving at intelligent solutions. However, if we are to ever solve our problems we must first recognize and discuss them, bring them out into the open and expose them to the atmosphere and light of intelligent evaluation. We all develop and grow from infants to adults by the process of maturation, by recognizing our weakness, our faults and correcting them. In this manner academic fire protection education will mature into a strong and healthy science.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575 EAST MILWAUKEE
DETROIT 2, MICHIGAN

## Results Are What Count!

(*Continued from page 22*)

to have a professional staff of five highly capable, seasoned instructors who came from the active ranks of fire fighters.

Trainees are assigned as company personnel and, upon receipt of alarms, respond with fire apparatus to locations where actual fires are in progress. Some of the so-called "test fires" are in the first phase; some in the second phase; some in the third phase. All are on sites that have not been revealed to "the responding companies." The results of these practices prove to what extent our training advice has been heeded. Errors in judgment or technique are quickly noted by our supervising instructors who are constantly on guard at strategic points to safeguard all operations. Before the issuance of graduation certificates, "post mortems" are held on the training.

Within the several training cycles completed in 1958, we conducted 17 five-day courses, graduating 1286 men. We are primarily interested in quality rather than quantity and purposely restrict class enrollments with that in mind. We offered 18 special type programs in which 362 persons shared. We are able to credit our 1958 seasonal attendance at the Pennsylvania State Firemen's Training School with a total enrollment of 648.

The results of firemen's training count when they reflect the exercise of understanding and reasonable caution; they count when the directing officer shows wise choice and attains desired objectives. They add up when "the men on the pipe" know where, when and how to deliver "the ammunition" where it may do the least damage and the most good. Results count when a trained operator is at the throttle of a costly pumping engine and intelligently pours out the stuff that spells death to the destructive power of the fire demon. Results show when the truck company officer knows his ladders; how to place them safely and to what degree they may be employed either to ventilate a burning structure with a view to curbing fire travel or to rescue humans in jeopardy.


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### Air Force Equipment Demonstrated

APPROXIMATELY 150 air base fire chiefs, Air Force officer personnel, manufacturers' representatives and other interested persons attended a two-day demonstration at the Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio. Shown in subzero weather were some of the latest items of fire fighting apparatus and equipment designed to meet the specifications of the Air Force for aircraft rescue and fire fighting. The demonstration was sponsored by Headquarters, U. S. Air Force Air Research and Development Command with W. R. Smith, Chief Fire Protection Equipment Section, Base Equipment Branch, Aeronautical Accessories Laboratory, WADC, serving as chairman.

Shown on the first day were modified O-10 and O-11A crash trucks, some Rockwood 50 and 60 gpm foam hand line nozzles, a new 300 gallon capacity kit to be used by a helicopter, plus auxiliary foam fire fighting equipment.

On the second day there were demonstrations of portable fire extinguishers discharging carbon dioxide, dry chemical and chlorobromomethane; the use of compatible dry chemical in combination with foam delivered from hand lines; the type MA-1 dry chemical truck and the types O-11A, O-11B, and the new O-12 aircraft crash trucks.

The O-12 is the latest vehicle to be designed for use by the Air Force

in handling large aircraft involved by fire. This truck carries 2,300 gallons of water, 200 gallons of liquid foam concentrate, 80 gallons of chlorobromomethane, and is powered by an 810 hp engine located at the rear. There is a 1,500 gpm pump driven by a separate 500 hp air-cooled engine. The vehicle is winterized to provide an operating range from –65°F. to 125°F. It has a crew capacity of seven men but it has been specifically designed so that it can be manned, if necessary, by one man.

Water can be discharged through the double-valve turret nozzle located above the cab which has a capacity of 1,000 gpm. There is also a remotely controlled turret nozzle which can discharge water, foam, or chlorobromomethane and can serve as ground sweep, nozzle or as an independent turret. Discharge capacity is 300 gpm. There are also two undertruck nozzles with a capacity of 25 gpm each. Two 150-ft. 1½-in. hand lines reel from the front of the truck and are used for attacking fire with foam. The truck also carries two CB hand fire extinguishers, a 24-ft. combination A-frame, an extension ladder, a power saw, and other equipment.


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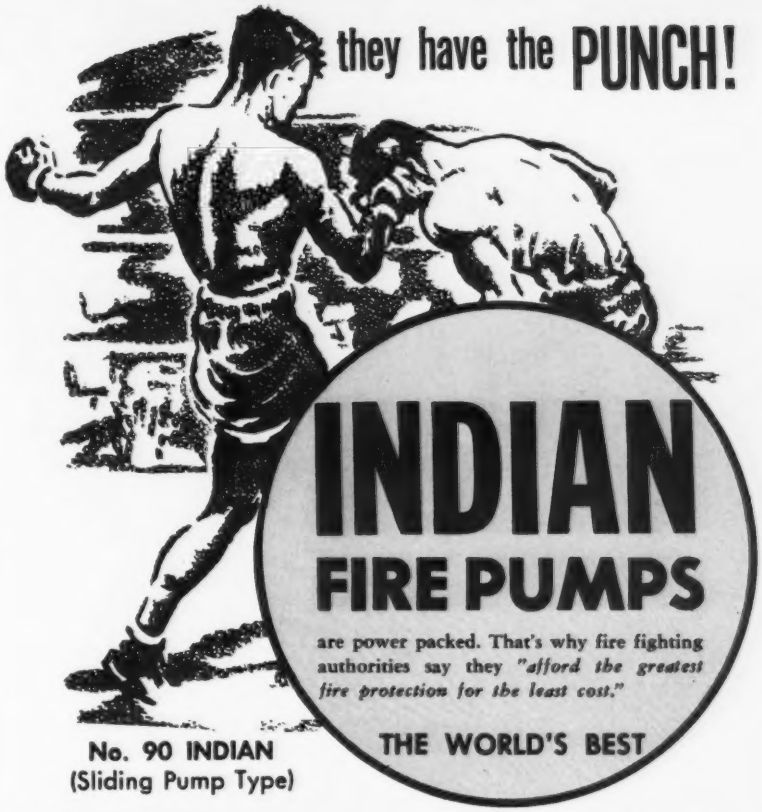
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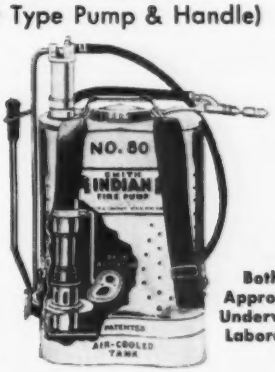
Fire fighting authorities who have experimented with a "WET WATER" powder mixed with the water in an **INDIAN FIRE PUMP** tank report it does an excellent job.

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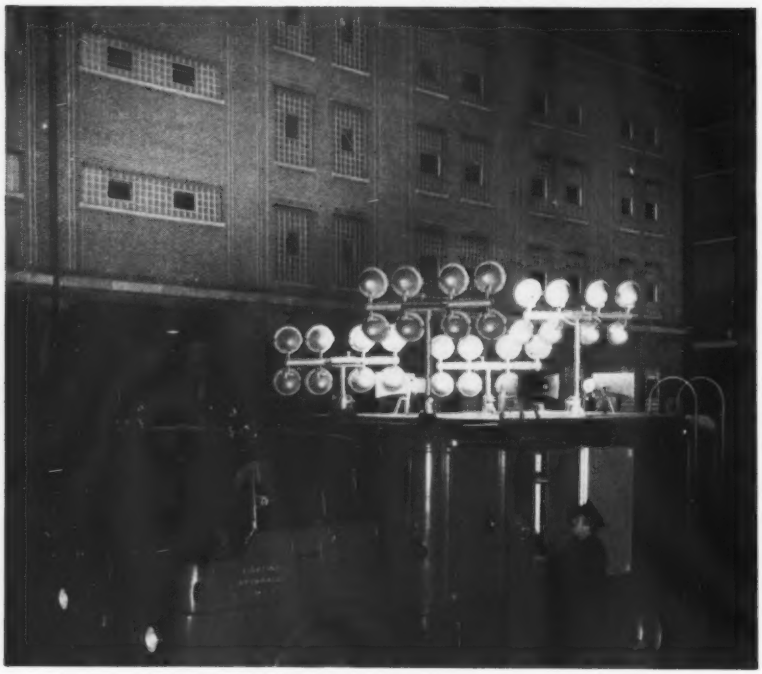
Onan ELECTRIC PLANTS

# ELECTRIC PLANT NEWS

Onan ELECTRIC PLANTS



## New 1,000,000 candlepower trucks equipped with Onan Electric Plants

**25KW Onan units power battery of floodlights for fire fighting; provide current for auxiliary equipment, too**

The Chicago fire department recently put three of these new-type lighting apparatus trucks into service, each of which has an assembly of thirty-two 500-watt floodlights. Just one of these trucks can illuminate the whole side of a large building. Floodlights are mounted on a special metal superstructure which can be adjusted to any vertical or horizontal angle. The entire assembly folds flat.

Each truck is equipped with an Onan 25KW plant housed within the truck body. It supplies 16KW for floodlighting with 9 KW in reserve for tools, blowers, other lights and communications.

Onan also builds lightweight electric plants which can be carried right up to the fire site; rig-mounted, quickly-demountable units; mobile electric plants for truck or trailer mounting; and emergency electric plants for standby use.

**Onan Model 25EC-4R8** shown through open doors of truck, provides ample power, is easily accessible. Note how lighting superstructure folds flat when not in use. Lamps face down for protection. Truck also carries electric tools, reel of cable and other fire fighting equipment.

**A. C. Models: 500 to 200,000 watts; also D. C. and Battery charging units.**

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## New Approach for Fire Defense Planning

MEMBERS of the fire service, many of whom have been critical of progress in U. S. fire defense planning, should be interested in knowing that a recently appointed Fire Defense Advisory Committee met in Washington, November 25–26, 1958. The meeting, called by Director Leo A. Hoegh of the Office of Civil and Defense Mobilization, is part of the "new look" in the Federal approach to defense planning.

Director Hoegh, formerly Governor of Iowa, reiterated the policy he stated before the annual conference of the International Association of Fire Chiefs in Los Angeles last September that it was up to the various services concerned, through their service advisory committees, to advise the government on policy affecting the particular services and that it was the policy that fire protection would be the responsibility of fire service people.

The Fire Defense Advisory Committee consists of 21 persons, listed below, of whom 20 were in attendance at the conference. While numerous fire defense problems were discussed, most of the work of the committee was devoted to development of a "Fire Protection Annex" to "The National Plan for Civil Defense and Defense Mobilization, which establishes national nonmilitary courses of action and the role of the Federal Government, the States, their political subdivisions and their people to deter aggres-


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sion and, in the event of aggression, to enable the Nation to survive, recover and win."

The Fire Defense Advisory Committee will meet again in February to complete action on the Fire Defense Annex which will be ready for release March 1, at which time authoritative information should be available to all concerned with fire defense.

International Association of Fire Chiefs: Chief Reynold C. Malmquist, Minneapolis, President; B. Ritcher Townsend, Secretary-Manager.

International Association of Fire Fighters: William D. Buck, President; John C. Kabachus, Secretary-Treasurer.

National Fire Protection Association: Henry G. Thomas, President; Percy Bugbee, General Manager; Horatio Bond, Chief Engineer; Warren Y. Kimball, Manager, Fire Service Dept.

National Board of Fire Underwriters: Lewis A. Vincent, General Manager; Everett W. Fowler, Chief Engineer; Robert A. Young, Special Assistant to Director of Municipal Surveys.

Other Fire Service and Civil Defense Consultants: Harold Bowhay, California State Fire Coordinator; Robert C. Byrus, Director, Fire Service Extension, University of Maryland; Paul Forsyth, Director, Denver Office, U. S. Civil Defense; E. C. "Buff" Iverson, State Fire Marshal, Nebraska; Walter H. Kennett, Director, Maine Office of Civil Defense; Keith E. Klinger, Chief Engineer, Fire Department, Los Angeles County; Jack Lowe, Director, Civil Defense, Portland, Oregon; Merle S. Lowden, Chairman, National Rural Fire Defense Committee, U. S. Forest Service; Donald M. O'Brien, Editor, *Fire Engineering Magazine* and George J. Richardson, Special Assistant to the President, AFL-CIO.


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**1 — Seagrave 600 gpm Pumper**

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Each in excellent condition. Inspection invited. Photographs sent on request. Bids will be called for approximately April 1, 1959.

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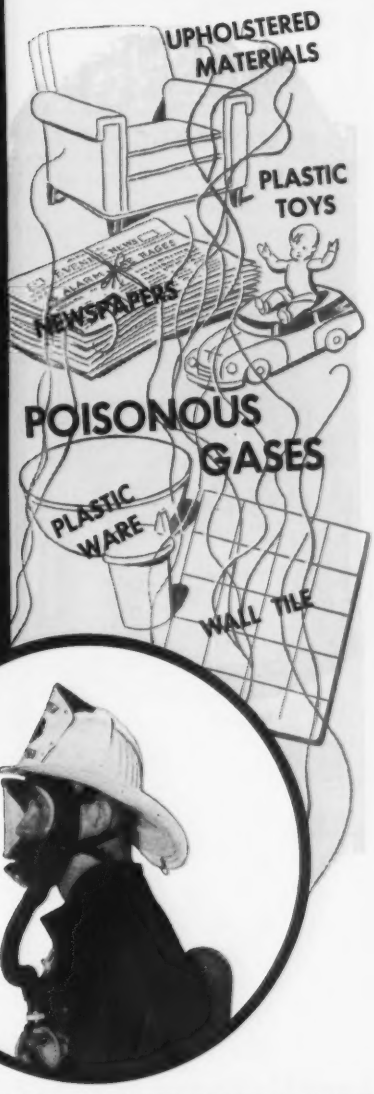


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The Scottoramic Mask gives unlimited vision in all directions. It helps you keep out of danger zones.

Is your fire company Scott equipped for modern rescue work? Let us show you how little it costs. You'll be amazed at the annual savings over other types of equipment. Write us today or contact your nearest Scott Distributor.

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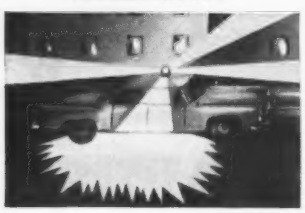

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* Two brilliant red sealed beam bulbs project 90 explosive flashes per minute thru complete 360 degree arc.

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The red bulbs can be operated independently from the WHITE bulbs by means of a two-position dash switch.

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## Preventing Home Fires

THE popular NFPA pamphlet "Preventing Home Fires" has recently been revised to include with its 55 home fire safety tips, up-to-date statistics, four current photographs and a new paragraph on home drier fires. "Preventing Home Fires" is divided into ten sections. Each outlines recommendations for home hazards such as smoking, electrical appliances and furnaces.

Well illustrated with pictures of preventable fires, the 24-page, 5½- by 8½-in., easy-to-read pamphlet is available for 35 cents (discounts for quantities) from the NFPA Publications Department.

## Quarterly Reprints

FOUR articles from the October, 1958, *Quarterly* have already been reprinted in pamphlet form. Announced in the November *Fire News* was *Quarterly* reprint No. Q52–5 entitled "Oil Froth Fire at Signal Hill Refinery," by Miles E. Woodworth. This 16-page pamphlet is available for 40 cents each with a discount for quantities. Also announced earlier was the reprint of the article on "Fires and Fire Losses Classified, 1957," Q52–3. Due to a minor error in tabulation, a revised edition of this reprint has now been issued and copies are available at 25 cents each with a discount for quantity orders.

Two new reprints just published include the article on "Explosion Protection Operating Experience" by Mr. George J. Grabowski, Q52–6. This 12-page reprint reports the significant progress that has been made in explosion detection and suppression and is of particular interest to those having dust and flammable vapor explosion hazards. Copies of this pamphlet are available for 25 cents each. The other reprinted article is on "Burning Characteristics of Fabric Clothing" prepared by Mr. Joe R. Yockers, the California State Fire Marshal. This reprint is identified as Q52–7 and covers the combustibility of various fabrics, including the new synthetic fabrics and is a highly valuable educational tool for those interested in reducing loss of life and injury hazards. Copies of this pamphlet are also available at 25 cents each with discounts for quantities.

## New Reference List

**6 x 9 inches, 18 pages — 50 cents each**
Discount for quantities

A revised edition of this popular bibliography of fire service training has just been published. The pamphlet was prepared by a subcommittee of the NFPA Committee on Fire Service Training under the leadership of Robert F. Hamm, Director of Public Relations and Firemen Training, Indiana Rating Bureau. It lists over 150 publications of special value to the fire service in establishing practical training programs. A small list of motion picture film recommended by the Committee on Fire Service Training is also included. Use this blank for ordering copies.

**National Fire Protection Assoc.**
**60 Batterymarch Street** FB-1-59
**Boston 10, Massachusetts**

Please send me ..... copies of "A Reference List for Firemen's Training."

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# NFPA Official Calendar for 1959

THE official 1959 calendar of the National Fire Protection Association is now available from the publishers, Brown and Bigelow, St. Paul, Minnesota. The original painting was done by Artist William C. Griffith, well-known artist of outdoor cover pictures for magazines such as the *Saturday Evening Post* and *Sports Afield*.

The 1959 calendar is personalized for the particular community by including the name and telephone number of the fire department as well as the name of the merchant or organization that sponsors distribution of the calendar. Underneath the calendar pad on the back page is a description of the National Fire Protection Association and its nonprofit activities in the interest of fire protection and prevention.

The calendar is available in the following sizes: 29- by 43-in., 18- by 27-in., and 14- by 21-in. Additional information may be obtained by writing to the Company which has produced the official NFPA calendar for the third consecutive year and is in its 62nd year of operation.

**Rescue Unit for Jennings, Missouri**

New rescue unit recently purchased by the Jennings, Missouri, Fire Department, is built on a Chevrolet chassis. It is designed to handle a variety of rescue emergencies and can serve as an ambulance. Included in the unit are an Emerson resuscitator, welding equipment, ladders, stretchers, blankets, acetylene cutting torches and other emergency equipment. Chief Al Wiese of Jennings is shown with company representatives.

A pre-attack planning class held at the 1958 Kentucky Fire School was developed at the Annual Instructors' Conference in Lexington and featured a scale model of a city business section. The various buildings were painted in specific colors to show kind of construction and type of roof that might influence strategy during fire. Miniature ladders and pumpers were also used for placement during the tactics discussions. Capt. Harry Wolff, (extreme right), of the Western Actuarial Bureau of Chicago and advisor to the class, demonstrates to the instructors.

**NFPA Annual Meeting**

JUNE 1–5, 1959

**Atlantic City, New Jersey**

**Dennis Hotel** **The Shelburne**


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- **Cannot BURN, Rot, Mildew or deteriorate with age.**
- **Will not absorb Water, Oils or Greases.**

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*Manufacturers of Aluminized Glass Cloth Fire Fighting Clothing*

For safety's sake—end flying, flapping ties

# Smoothie

*PATENTED

## BUTTON DOWN TIES

12 solid colors
100% DACRON
Wash 'n Wear
or
100% Wool
Worsted

$1.50

Slip small end thru loop label

Button tie to shirt

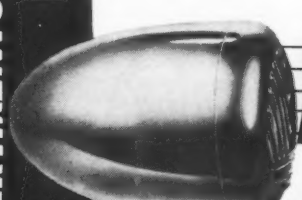
*U. S. Pat. #2,813,273

*Order Smoothie Button Down Ties from the following uniform mfgrs. or direct from A. Schreter & Sons Co., Inc., 16 S. Eutaw St., Baltimore 1, Md. or, from your regular uniform dealer:*

W. S. Darley & Co., 2810 Washington Blvd., Chicago 12, Ill.
Maier-Lavaty Co., 315 S. Peoria St., Chicago 7, Ill.
Penn Garment Co., Williamsport, Pa.
Russell Uniform Co., 192 Lexington Ave., New York 16, N.Y.



FOR FIRE DEPARTMENTS



# NEW combination SIREN & PA unit

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*Office of Civil and Defense Mobilization (formerly FCDA)

FEDERAL'S "*INTERCEPTOR*", the newest in sirens. Instantaneous, automatic, up-and-down scale operation converts instantly to a PA system. At the flick of the switch, it amplifies your verbal orders and instructions and also amplifies messages received on your truck's radio receiver.

The siren sound is highly directional, beamed forward where needed. It reduces annoyance to the driver, and permits him to hear the sirens of approaching vehicles. It comes with small, compact speaker as standard equipment. Chrome-plated, streamlined, weather-proof speaker, as illustrated above, optionally available. Write for Bulletin #325.

FEDERAL SIGN and SIGNAL Corporation
8717 S. State St., Chicago 19, Ill.


## New Members

*NFPA Welcomes* the following chiefs and fire departments who recently joined the Association. This month 24,652 fire fighters and 4,824 other subscribers are receiving FIREMEN.

**British Columbia:** Lillooet Volunteer Fire Department, Lillooet; Martin Valley Fire Department, Ocean Falls.

**California:** Cambria Fire Department, Cambria.

**Connecticut:** The Wilton Volunteer Fire Department, Wilton.

**Michigan:** Traverse City State Hospital Volunteer Fire, Traverse City.

**Minnesota:** Mountain Lake Fire Department, Mountain Lake.

**Missouri:** Fenton Volunteer Fire Department, Fenton; Wentzville Fire Department, Wentzville.

**New Hampshire:** Inundation Engine Company, Amherst.

**New Jersey:** Lyndhurst Volunteer Fire Department, Lyndhurst.

**New York:** Fishers Fire Department, Fishers; LaGrange Fire Company No. 2, Poughkeepsie.

**North Carolina:** Alamance Volunteer Fire Department, Greensboro.

**Ohio:** Belle Center Volunteer Fire Department, Belle Center; Canal Fulton Volunteer Fire Department, Canal Fulton; Springdale Volunteer Fire Department, Glendale; Pemberville-Freedom Fire Department, Pemberville; Alexis Firemen's Association, Inc., Toledo 12; Willowick Fire Department, Willowick; Woodville Fire Department, Woodville.

**Ontario:** J. H. T. Poudrette, Royal Canadian Mounted Police, Ottawa.

**Oregon:** Manzanita Volunteer Fire Department, Manzanita.

**Persian Gulf:** R. Ford, Awali, Bahrain.

**Virginia:** Clintwood Volunteer Fire Department, Clintwood.

**Washington:** Pierce County Fire Protection District No. 10, Tacoma 22.

**Wisconsin:** Chief H. A. Czoschke, Knowles Volunteer Fire Department, Knowles.


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**1941 U. S. A. HALIBIRD FIRE TRUCK**

Completely equipped except for 2½" hose. 750 Hale rotary pump.

*For details call*

JOHN W. KAUFFMAN
GAP FIRE COMPANY
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## Subcommittee on Respiratory Methods and Equipment

AS THE result of a meeting held at Boston on Sunday, November 2, a new subcommittee of the NFPA Committee on Fire Department Equipment will be organized. It is to be known as the "Subcommittee on Respiratory Methods and Equipment" and its scope will include the development of recommendations on methods and apparatus for resuscitation and for respiratory and other protective equipment to be used by fire departments. Participating in the meeting were: NFPA General Manager Percy Bugbee; Assistant General Manager Charles S. Morgan; Chief Henry G. Thomas, Hartford, Connecticut, President, NFPA; Dr. Archer S. Gordon, Department of Surgery, Children's Hospital, Los Angeles, California; Howard A. Carter, Associate Secretary, Council of Medical Physics, American Medical Association, Chicago, Illinois; Dr. Lewis Lambert, Hitchcock Clinic, Hanover, New Hampshire; Clark F. Jones, NFPA Gases Engineer; Warren Y. Kimball and Paul R. Lyons, NFPA Fire Service Department.

Chairman of the subcommittee will be Dr. Lambert under whose leadership a small pilot group of medical and fire service representatives is now undertaking a preliminary study of the subject.

## New President for Underwriters' Laboratories

MR. MERWIN BRANDON, Vice-President of Underwriters' Laboratories in New York, has been appointed President, effective April 1, 1959, to succeed Curtis R. Welborn who will retire as of that date. Mr. Welborn has been instrumental in developing new sites for Underwriters' Laboratories operations and under his leadership the Laboratories have made extensive advances. Mr. Brandon in his new capacity will remain Chairman of the NFPA Electrical Correlating Committee and of the Electrical Section.

Mr. H. Baron Whitaker of Underwriters' Laboratories, New York, has been appointed Vice Chairman of the Electrical Correlating Committee and of the Electrical Section to provide help for Mr. Brandon.

## Rochester Changeover

THE September, 1958, issue of FIREMEN magazine described pumpers constructed in the shops of the Rochester, New York, Bureau of Fire. Mr. Joseph Fishelson, president, Akron Brass Company, informs us that Akron nozzles have been adopted as standard for both 1½-in. and 2½-in. lines by the Rochester Fire Bureau.

## British Fire Protection Year Book

A COMPREHENSIVE directory applying to the nations, states and colonies of the British Commonwealth is the *Fire Protection Year Book*, the 1959 edition of which has just been published by Fire Protection Review, Bouverie House, Fleet Street, London E. C. 4, England. It is a reference book on fire brigade and fire law matters which is kept up to date and includes listing of public and private fire brigades, salvage corps and civil defense organizations. Send orders to the above address, remitting price: 1 pound sterling ($2.82).

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this month's

# EQUIPMENT NEWS

The many friends of Frank N. McIntire, founder in 1896 of the *F. N. McIntire Brass Works*, Cambridge, Massachusetts, will be sorry to hear of his death on December 3, at the age of 86.

His son, Thomas S. McIntire, is president of the company which originated, and is the sole manufacturer of, the "Invincible Nozzle."

**New FWD 750 GPM Pumper for Yoakum, Texas**

Chief Elmer Hanna, Yoakum, Texas, Fire Department and City Manager R. H. Koether check capacity of a new 750 gpm pumper recently accepted by the department. The four-wheel-drive apparatus features 500 gallon booster tank, twin hose reels and special compartments for equipment storage. Manufactured by *Four Wheel Drive Auto Company*, Clintonville, Wisconsin.

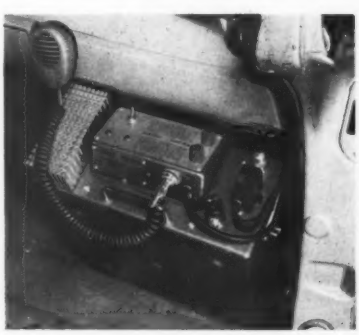
●

A new fire-crash truck body, mounted on an FC-170 Willys chassis, is being used by the Lyons, Pennsylvania, Volunteer Fire Company No. 1. This new Model U-232 body is available in cab-to-axle measurements from 48-in. up to 72-in. Complete details are available from the manufacturer, *Morysville Body Works, Inc.*, Boyertown, Pennsylvania.

●

The Navy Bureau of Ships has purchased gas turbine-powered pumps from *Solar Aircraft Company*, 2200 Pacific Highway, San Diego 12, California, for nuclear washdown, it was recently announced by France Q. Wilson, Solar manager of turbine and control sales. The pumps, powered by the 50 hp Mars turbine engine, are being used by the Navy to study the effectiveness of washing down ships with water as protection against contamination after a nuclear explosion. Mars turbine engines are already in use by the Navy for operating portable fire pumps and emergency shipboard applications.

●



**Transistor-Powered Mobile Radio**

New two-way radio equipment introduced by *General Electric Communication Products Department*, Syracuse, New York, contains transistor power for both transmitter and receiver. Units are available either for mounting in the front of a car or truck (as shown) or for placement in a vehicle's trunk. General Electric transistor-powered designs may be used in low band frequencies (25 mc), high band (144–174 mc) and UHF (450–470 mc).

Gerald J. Halpin, vice president for sales of *American LaFrance*, has been elected president of the Fire Apparatus Manufacturers' Association, Inc. He succeeds Richard S. Howe, of Anderson, Indiana, who becomes chairman.

●

**Button Down Tie**

A new development in uniform apparel is a "Smoothie" button down tie designed to stay straight even in wind. Manufactured by *A. Schreter & Sons Company, Inc.*, 16 South Eutaw Street, Baltimore 1, Maryland.

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**Consider the products advertised in this issue.**


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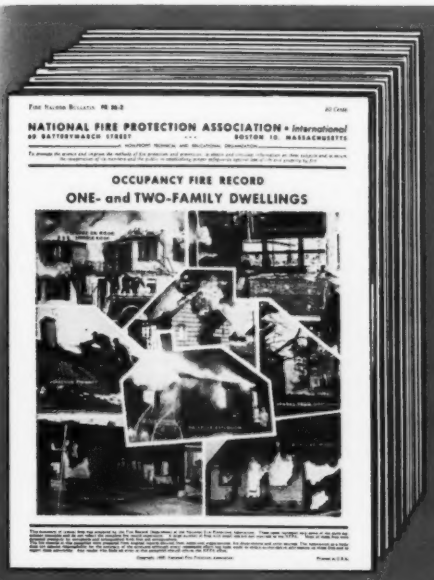
# PINPOINT YOUR INSPECTION PROGRAMS!

**Fire Departments everywhere use these valuable fire records for inspection and training programs. Get this complete set now for your fire station library.**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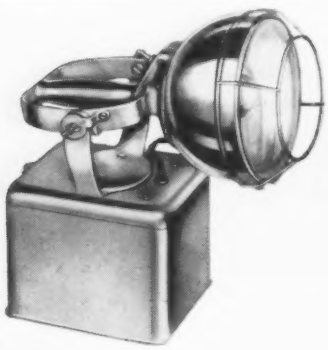

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**PRICES:**

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Super-6 . . . **$40.00**
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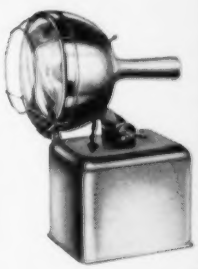
Smoke-fog penetrating lens . . . **$3.50**

**Type WS-6** *(Illus. above left)* The ideal light for chiefs and officers. Especially valuable for rescue work . . . where seconds count, it is on the job before mounted searchlights can be positioned. Operates as powerful searchlight or worklight. One battery charge gives 24 hours continuous service as worklight or 6 to 8 hours as searchlight . . . much longer if used intermittently. Only 12 lbs. including battery! Convenient finger-tip, self-balancing handle and beautiful duro-satin finish. Available with running board holder and smoke-fog penetrating lens as optional extras. **Type Super-6** *(Illus. right)* is the same fine basic unit except with rugged one-piece handle and housing.



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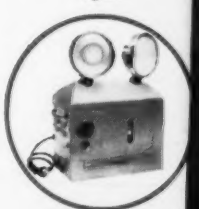

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